UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,601	06/02/2000	Shuji Ono	3562-0103P	6153

7590	11/21/2003

Birch Stewart Kolasch & Birch LLP
P O Box 747
Falls Church, VA 22040-0747

EXAMINER
WU, DOROTHY

ART UNIT	PAPER NUMBER
2615	7

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.		Applicant(s)	
Office Action Summary		09/586,601		ONO, SHUJI	
		Examiner		**Art Unit**	
		Dorothy Wu		2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-17_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-17_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _3_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Claim Objections

1. Claims 5 and 9 are objected to because of the following informalities.

Regarding claim 5, the claim hyphenates "desired-aimed-objects." The hyphens are not

used in other claims.

Regarding claim 9, the claim recites the limitation "inputting parallactic an image"

instead of "inputting a parallactic image."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Claim 8 recites the limitation "said plurality of images formed by said input unit" in the

fourth line of the claim. There is insufficient antecedent basis for this limitation in the claim. All

dependent claims are subsequently rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1, 3, 4, 8, 11, 13, 14, and 17 rejected under 35 U.S.C. 103(a) as being

unpatentable over Nozaki et al, U.S. Pub. No. 2003/00193610, in view of Tachibana et al, J.P.

Patent No. JP9212620, included in the applicant's Information Disclosure Statement.

Regarding claim 1, Nozaki teaches an image selecting apparatus (electronic camera) for

selecting a desired image from among a plurality of images obtained by continuously

photographing a subject [0048], comprising: an extractor (shooting evaluation means 3)

extracting data from each of said plurality of images [0049, 0226], and a selecting unit (still

image selection means 4) selecting a desired image from among said plurality of images, said

image satisfying a predetermined selection condition [0049, 0044-0046]. The condition-storing

unit storing a predetermined selection condition is inherently taught. Nozaki teaches that

evaluation items other than those recited in the Nozaki patent may be used to determine which

image to select [0078]. Nozaki does not teach that the selection of an image is based upon a

desired aimed object within the image. Tachibana teaches the evaluation of an image based upon

expression feature data, which reads on the desired aimed object, and the selection of one

particular image from a plurality of images (abstract). Therefore, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to combine the apparatus of

Nozaki with the practice of evaluating a plurality of images based upon expression feature data

taught by Tachibana to make an apparatus that continuously images a subject and selects the

image with the best depiction of an aimed object. One of ordinary skill would have been

motivated to make such a modification to obtain the best quality image of a human face.

Regarding claim 3, Nozaki teaches that said extractor extracts data based on image

information included in each of said images [0071].

Regarding claim 4, Tachibana teaches the detection of a judgement location (expression

features) from data of an aimed object (a human face) based on image information included in an

image (abstract). Tachibana teaches that a reference face image with average expression feature

data is set and the source face image closest to the purpose is selected, which reads on the

predetermined selection condition being related to the desirable judgment location, namely, the

expression features, and the selection of an image with the desired aimed object (human face)

including a judgement location (expression features) satisfying said selection condition

(expression features closest to that of reference image) related to said desirable judgement

location (abstract).

As best understood from the language of the claim, regarding claim 8, Nozaki teaches a

camera [0037] comprising: an input unit (image pick-up means 1) forming an image of a subject

[0048], an extractor (shooting evaluation means 3) extracting data from each of said plurality of

images formed by the input unit [0049, 0226], and a selecting unit (still image selection means 4)

selecting a desired image from among said plurality of images, said image satisfying a

predetermined selection condition [0049, 0044-0046]. The condition-storing unit storing a

predetermined selection condition is inherently taught. Nozaki teaches that evaluation items

other than those recited in the Nozaki patent may be used to determine which image to select

[0078]. Nozaki does not teach that the selection of an image is based upon a desired aimed object within the image. Tachibana teaches the evaluation of an image based upon expression feature data, which reads on the desired aimed object, and the selection of one particular image from a plurality of images (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the apparatus of Nozaki with the practice of evaluating a plurality of images based upon expression feature data taught by Tachibana to make an apparatus that continuously images a subject and selects the image with the best depiction of an aimed object. One of ordinary skill would have been motivated to make such a modification to obtain the best quality image of a human face.

Regarding claims 11, 13, and 14, because the apparatuses of claims 1, 3, and 4 are taught, the methods corresponding to the apparatuses are also taught.

Regarding claim 17, Nozaki in view of Tachibana teach the apparatus of claim 1. See above. Nozaki teaches a recording medium that stores a program for executing the algorithm of the patent [0081]. It would have been obvious to one of ordinary skill to implement the algorithm of Nozaki in view of Tachibana using a program stored on a recording medium.

4.   Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al, U.S. Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No. JP9212620, and further in view of Mihara et al, U.S. Pub. No. 2002/0126879.

Regarding claim 2, Nozaki in view of Tachibana teach the apparatus of claim 1. See above. Nozaki in view of Tachibana do not teach that the extractor extracts data of said aimed object based on depth information indicating the distance to each part of said subject. Mihara

does teach the extraction of data based on depth information indicating the distance to each part

of the subject [0039]. Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to combine the apparatus that captures multiple images of a

subject and selects the best image taught by Nozaki in view of Tachibana with the practice of

extracting image data based on distances to the parts of the subject taught by Mihara to make an

image sensing apparatus that uses distance information to extract data from a plurality of images

and to select the best image. One of ordinary skill would have been motivated to make such a

modification to select a high quality image from a plurality of images using extracted image data.

Regarding claim 12, because the apparatus of claim 2 is taught, the method

corresponding to the apparatus is also taught.

5.   Claims 5-7, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Nozaki et al, U.S. Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No.

JP9212620, and further in view of Marugame, U.S. Patent 6,226,396.

Regarding claim 5, Nozaki in view of Tachibana teach the apparatus of claim 1. See

above. Nozaki in view of Tachibana do not teach that the extractor extracts data of a plurality of

aimed objects from each of said plurality of images, and said selecting unit selects a plurality of

desired-aimed-objcts for each of said plurality of aimed objects. Marugame teaches the

extraction of multiple subjects from an image (col. 1, lines 60-62; col. 8, lines 64-66). Therefore,

it would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the practice of extracting multiple subjects taught by Marugame with the practice of

capturing a plurality of images, extracting the target subject, and selecting a best representation

of the target subject from among the plurality of images taught by Nozaki in view of Tachibana to make an apparatus that continuously photographs a scene, extracts a plurality of aimed objects from each image, and selects an image with the best representation of the multiple aimed objects. One of ordinary skill would have been motivated to make such a modification to obtain an image that maximizes the image quality of as many subjects in the image as possible.

Regarding claim 6, Tachibana teaches the detection of a judgement location (expression features) from data of an aimed object (a human face) based on image information included in an image (abstract). Tachibana teaches that a reference face image with average expression feature data is set and the source face image closest to the purpose is selected, which reads on the predetermined selection condition being related to the desirable judgment location, namely, the expression features, and the selection of an image with the desired aimed object (human face) including a judgement location (expression features) satisfying said selection condition (expression features closest to that of reference image) related to said desirable judgement location (abstract). It would have been obvious to detect judgement locations for each of a plurality of aimed objects, and to select the aimed objects that best satisfy a predetermined condition.

Regarding claims 15 and 16, because the apparatuses of claims 5 and 6 are taught, the methods corresponding to the apparatuses are also taught.

Regarding 7, Tachibana teaches that the plural face images are synthesized based on the data, which reads on an image-composite unit compositing said plurality of desired aimed objects (human faces) to form a composite image, said composite image including said plurality

of desired aimed objects for each of said plurality of aimed objects extracted from said plurality

of images (abstract).

6.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al, U.S.

Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No. JP9212620, in view of

Mihara et al, U.S. Pub. No. 2002/0126879, and further in view of Yoshigahara et al, U.S. Pub.

No. 2002/0085747.

Regarding claim 9, Nozaki in view of Tachibana teach the apparatus of claim 8. See

above. Nozaki in view of Tachibana in view of Mihara teach the practice of using distance data

to extract data from the plurality of images. See above. Nozaki in view of Tachibana in view of

Mihara do not teach an input unit that includes a parallactice image data input unit inputting a

parallactic image from different view points, wherein the extractor extracts data based on depth

information obtained from the parallactic image. Yoshigahara teaches the capturing of an image

from different points of view and the determination of distances to parts of the image using the

image data captured from different points of view, which reads on the parallactic image [0004].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the apparatus of Nozaki in view of Tachibana in view of Mihara with the

practice of using image data captured from different view points to determine the distance to a

part of a subject taught by Yoshigahara et al to make an image sensing apparatus that captures

multiple frames of image data, determines the distance to parts of the subject using data from

different viewpoints, extracts data based on the distance information, and selects

7.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al, U.S.

Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No. JP9212620, and further in

view of Nonweiler et al, U.S. Patent 6,262,778.

Regarding claim 10, Nozaki in view of Tachibana teach the apparatus of claim 8. See

above. Nozaki teaches a plurality of selection conditions that may be used for determining how

to select an image from a plurality of images [0072-0078]. Nonweiler et al teaches that a user

may select the desired parameters for image processing from a menu of options (col. 3, lines 31-

34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the practice of setting parameters from a list of options taught by

Nonweiler with the multiplicity of selection conditions taught by Nozaki in view of Tachibana to

make an apparatus that allows the user to select a selection condition from a display of selection

condition options. One of ordinary skill would have been motivated to make such a modification

to enable the user to compare the quality of images gained by using different selecting

conditions, and to use the selecting condition that produces images best suited to the user's

wishes.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dorothy Wu whose telephone number is 703-305-8412. The

examiner can normally be reached on Monday-Friday, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrew Christensen can be reached on 703-308-7644.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Technology Center 2600 Customer Service Office whose telephone

number is (703)306-0377.

DW

November 14, 2003

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600